FlyBy Math[TM] Alignment to
Mathematics Grade-Level Standards
Adopted April 2002

Algebraic Relationships

Common Curriculum Goal (CCG): Patterns and Functions:
Understand patterns, relations, and functions.

Grade-Level Standards	*FlyBy Math*[TM] Activities
M.CIM.3.A.1(2) Produce a valid conjecture using inductive reasoning by generalizing from a pattern of observations.	--Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.
M.CIM.3.A.1(3) Evaluate and make a table for two-variable formulas and match a graph or table of values to its formula.	--Represent distance, speed, and time relationships for constant speed cases using tables, bar graphs, line graphs, equations, and a Cartesian coordinate system.

CCG: Algebraic Relationships:
Represent and analyze mathematical situations and structures using algebraic symbols.

Grade-Level Standards	*FlyBy Math*[TM] Activities
M.CIM.3.B.1(3) Represent and solve system of linear equations with two variables using simultaneous equations and by graphing.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios. --Represent distance, speed, and time relationships for constant speed cases using linear equations and a Cartesian coordinate system.
M.CIM.3.B.1(5) Evaluate algebraic expressions and formulas by substituting real numbers.	--Use the distance-rate-time formula to predict and analyze aircraft conflicts.

CCG: Modeling:
Use mathematical models to represent and understand quantitative relationships.

Grade-Level Standards	*FlyBy Math*[TM] Activities
M.CIM.3.C.1(1) Model situations, make predictions and inferences, and solve problems using linear, quadratic, and exponential functions.	--Represent distance, speed, and time relationships for constant speed cases using linear equations and a Cartesian coordinate system. --Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.

CCG: Change:
Analyze change in various contexts.

Grade-Level Standards	*FlyBy Math*[TM] Activities
M.CIM.3.D.1(1) Approximate and interpret rates of change in graphical and numeric data.	--Interpret the slope of a line in the context of a distance-rate-time problem.

	--Use graphs to compare airspace scenarios for both the same and different starting conditions and the same and different constant (fixed) rates.

Measurement

CCG: Units and Tools:
Understand measurable attributes of objects and the units, systems and processes of measurement.

Grade-Level Standards	***FlyBy Math*^{TM} Activities**
M.CIM.4.A.1(1) Determine the appropriate units, scales, and tools for problem situations involving measurement.	--Calculate and measure the position and time of simulated aircraft. Represent that motion using tables, graphs, equations, and experimentation.

CCG: Direct & Indirect Measurement:
Apply appropriate techniques, tools, and formulas to determine measurements.

Grade-Level Standards	***FlyBy Math*^{TM} Activities**
M.CIM.4.B.1(8) Make and use scale drawings and models to solve problems.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios. --Calculate and measure the position and time of simulated aircraft. Represent that motion using tables, graphs, equations, and experimentation.

Geometry

CCG: Coordinate Geometry:
Specify locations and describe spatial relationships using coordinate geometry and other representational systems.

Grade-Level Standards	***FlyBy Math*^{TM} Activities**
M.CIM.5.C.1(2) Calculate slope, distance and midpoint between points with an emphasis on practical applications (use coordinate formulas).	--Interpret the slope of a line in the context of a distance-rate-time problem. --Calculate and measure the position and time of simulated aircraft. Represent that motion using tables, graphs, equations, and experimentation.

Mathematical Problem Solving

CCG: Conceptual Understanding:
Select, apply, and translate among mathematical representations to solve problems.

Grade-Level Standards	***FlyBy Math*^{TM} Activities**
M.CIM.6.A.1(1) Interpret the concepts of a problem-solving task and translate them into mathematics.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

CCG: Processes and Strategies: Apply and adapt a variety of appropriate strategies to solve problems.	
Grade-Level Standards	**FlyBy Math^{TM} Activities**
M.CIM.6.B.1(1) Choose strategies that can work and then carry out the strategies chosen.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

CCG: Communication: Communicate mathematical thinking coherently and clearly. Use the language of mathematics to express mathematical ideas precisely.	
Grade-Level Standards	**FlyBy Math^{TM} Activities**
M.CIM.6.D.1(1) Use pictures, symbols, and/or vocabulary to convey the path to the identified solution.	--Choose among tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.

CCG: Accuracy: Accurately solve problems that arise in mathematics and other contexts.	
Grade-Level Standards	**FlyBy Math^{TM} Activities**
M.CIM.6.E.1(1) Accurately solve problems using mathematics.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.